THE LARGER ELM LEAF BEETLE, MONOCESTA CORYLI (SAY)

(COLEOPTERA: CHRYSOMELIDAE)

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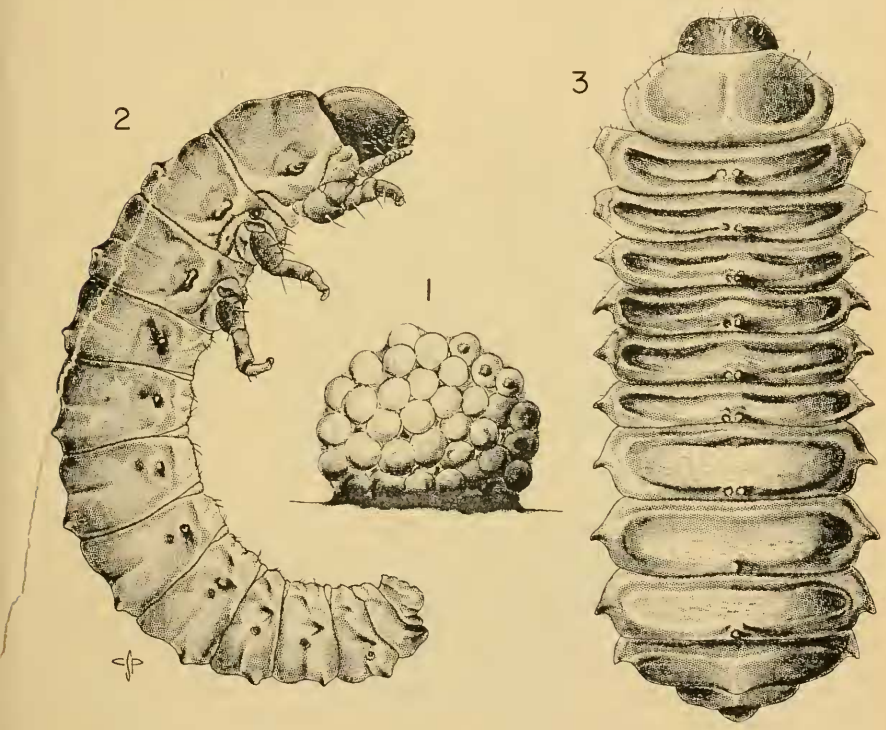
Between 1933 and 1940 a moderately large population of the larger elm leaf beetle occurred on native elms in a nursery and in neighboring forests close to the Dismal Swamp area south of Norfolk, Virginia. The following report includes information on the presently known



Monocesta coryli (Say). Fig. 1. egg mass; Figs. 2 and 3, larvae.

distribution of the species *Monocesta coryli* (Say), and a bibliography. It also summarizes the life history observations made by the senior author in the infested area and in the laboratory at the Virginia Truck Experiment Station in 1939-40.

LIFE HISTORY

This beetle is reported as feeding on the foliage of native and Japanese elm, hawthorn, hazelnut, red birch and pecans. A good description of the various stages of this beetle and of the life cycle

and habits has been given Riley (1878), Beutenmüller (1890), Packard (1890), Felt (1906), Baerg (1935), Kelsheimer (1945), Peterson (1951) and others, so only a summary will be given here of the life cycle, description and habits.

Life history studies were made in the field and laboratory from March 1939 to the spring of 1940. The full-grown, reddish-brown, metallic-lustered third instar larvae over-winter in cells a few inches below the surface of the soil. In 1939 these larvae began pupating the last few days of April and adults began emerging the end of May. The pupal period varied from 12 to 24 days. The adult (see fig. 5) is a large chrysomelid beetle nearly ¼ inch wide and ½ inch long.

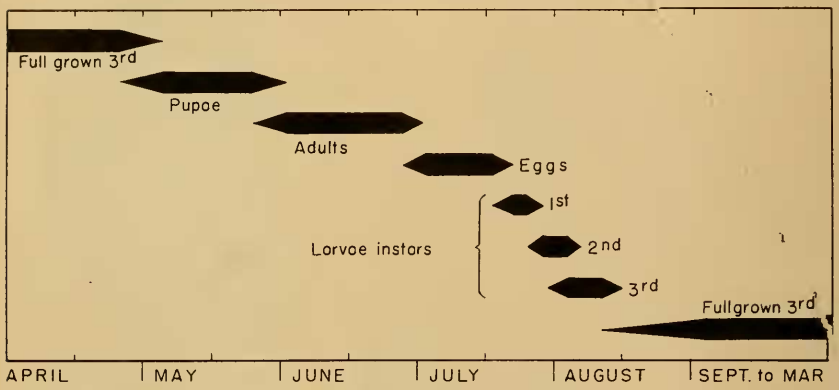


Fig. 4, summary of the life cycle of *Monocesta coryli* (Say) as observed in Virginia in 1939.

These yellowish beetles with metallic greenish-blue markings were present in the field from the last few days in May until the end of the first week of July. Mating was frequently observed in the field during June, and most of the eggs were laid during a short period the last few days of June and the first few days of July. The yellow egg masses (fig. 1) were usually glued to the underside of the leaves. These masses of 30 to 50 eggs each hatched in from 7 to 15 days. The newly-hatched larvae devoured the egg shells and then fed gregariously on the foliage during the first instar which lasted 3 to 11 days. The second instar larval stage lasted 8 to 15 days and the third instar larvae (figs. 2 and 3) fed 8 to 20 days before they entered the ground as full-grown larvae ready to overwinter. Figure 4 shows a summary of the approximate life cycle as observed in Virginia in 1939.

Distribution of M. coryli (Say)

Monocesta is a tropical genus with species widely represented in North, Central and South America and in the West Indies. *M. coryli* (Say) is recorded from the following states (numbers in parenthesis indicating references): Mississippi (16-27); Alabama (16-19-24);

Florida (8-9-10-16-17-18-24); Georgia (16-24-26): South Carolina (24-26); North Carolina (16); Virginia (7-8-14-15-16-17-20-23-24-25-26-28); Maryland (16-24-25-29-30); Pennsylvania (2-24); West Virginia (2-15-24); Ohio (24); Indiana (7); Illinois (7-9-14-18-24-28); Missouri (2-9-11-18-20-23-24-25); Kansas (8-9-14-18-24-28); Oklahoma (24); Arkansas (1-2-3-4-16). It is rather interesting to note that this beetle is not recorded from Kentucky and Tennessee, which are in the center of the known distribution area.

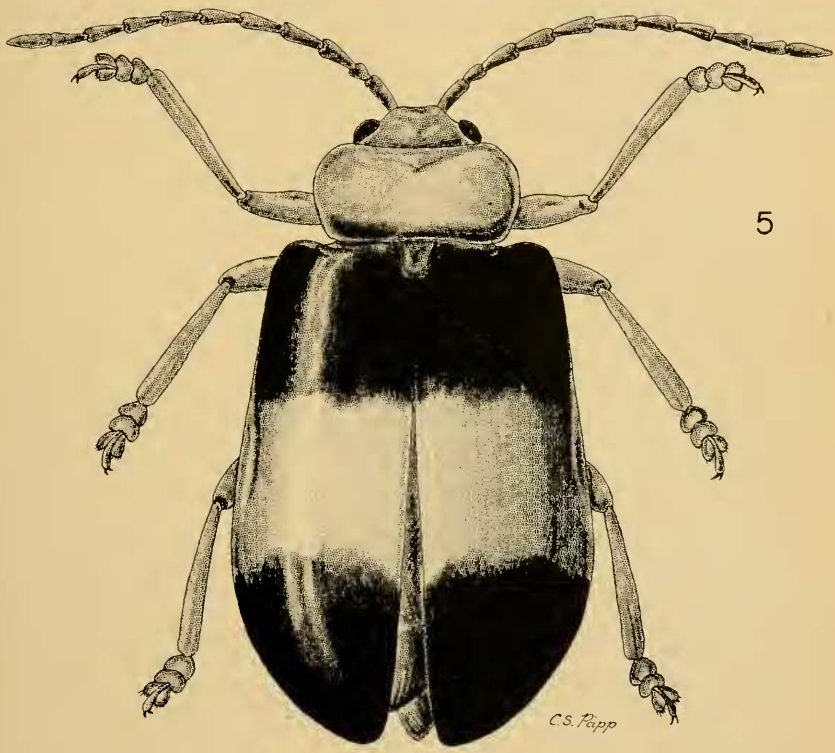


Fig. 5, adult of *M. coryli* (Say).

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A NOTE ON THE MONROS COLLECTION

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The Monrós collection of chrysomelid beetles came to the United States National Museum in 240 small (7½ by 10 inch) paper boxes with glass tops. The original figure given of 54,245 specimens is too small. A later count of the number contained in this collection was 58,364.

The beetles are mounted European fashion on oblong paper mounts, with the legs and antennae nicely spread. The labels are for the most part entirely legible and uniform in size, printed beautifully in Monrós' hand. Placed under his label is the original name label (which is frequently not so legible). In his locality labels Monrós tended to use different colors for different countries—the South American labels are white, United States yellow, European pink, African green, Australian gray, etc. This is not invariably the case, however.

Monrós' interest in certain subfamilies is reflected naturally in the number of specimens as well as the type material in these groups. The following shows the original number of boxes in each subfamily: Sagrinae 4, Donaciinae 2, Orsodacninae 2, Criocerinae 12, (7½ boxes of the genus *Lema*), Megascelinae 2, Megalopodinae 5, Clytrinae 20, Cryptocephalinae 14, Chlamydinae 7, Lamprosominae 3, Eumolpinae 36, Chrysomelinae 34, Galerucinae 13, Alticinae 25, Hispinae 24, Cassidinae 37.

Of the following genera Monrós had species, subspecies, and aberrations: 293 of *Lema*, 40 of *Megascelis*, 73 of *Mastosthethus*, 18 of *Agathomerus*, 224 of *Chlamisus*, 76 of *Lamprosoma*, 58 of *Nodonata*, 47 of *Colaspis*, 139 of *Maecolaspis*, 36 of *Rhabdopterus*, 91 of *Chalcophana*,